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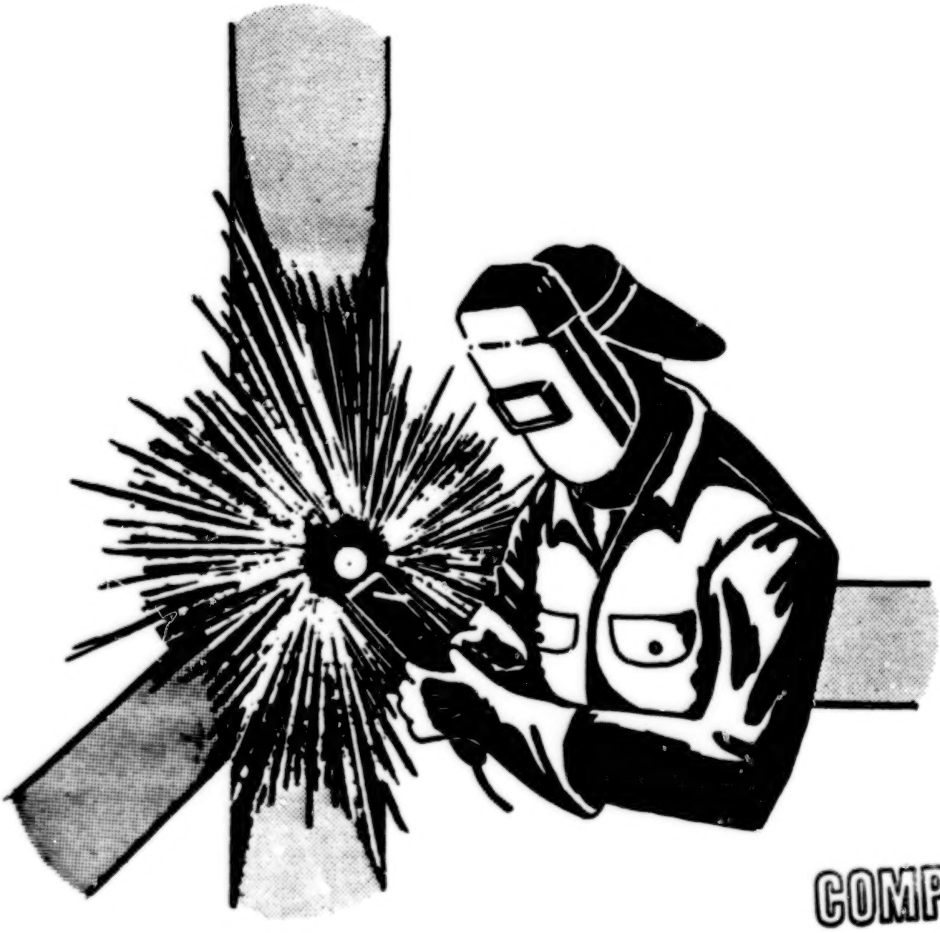
OCS Report
MMS 84-0064

RISK ANALYSIS OF WELDING ACCIDENTS

Gulf of Mexico OCS Region



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U.S. Department of the Interior/Minerals Management Service

OCS Report
MMS 84-0064

RISK ANALYSIS OF WELDING ACCIDENTS

Prepared by the
MINERALS MANAGEMENT SERVICE
Gulf of Mexico Region

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U.S. DEPARTMENT OF THE INTERIOR/MINERALS MANAGEMENT SERVICE

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RISK ANALYSIS OF WELDING ACCIDENTS

PURPOSE

The purpose of this analysis is to evaluate the risks associated with welding operations. The data presented were obtained from the Gulf of Mexico Accident Events File and the accident files maintained by the Risk and Safety Analysis Unit of Rules and Production.

SCOPE

This report analyzes welding accidents retrieved from the referenced files and occurring from January 1, 1967, to September 30, 1983. A search of the accident files was performed to extract the 90 welding-related incidents that are presented. By percentage, welding-related accidents comprise approximately three to four percent of all reported accidents.

INTRODUCTION

Because it is inherent in man to make mistakes or errors in judgment, some accidents are inevitable. Although regulatory agencies attempt to outline certain practices and procedures to be followed to help prevent accidents, these undesirable events still continue to happen.

This report has been developed to determine what, if any, recommendations can be made, based on past events, to help reduce the risks associated with welding operations. OCS Order Number 5, Section 5.4, "Welding and Burning Practices and Procedures," outlines certain procedures to be followed before and during welding operations. The adequacy of this Order will be reviewed on the basis of the findings of this report.

NARRATIVE

Between January 1, 1967, and September 30, 1983, there were a total of 90 welding-related accidents. These accidents have resulted in a number of undesirable events including fires, explosions, pollution spills, fatalities and injuries. To analyze the accidents, a number of tables and figures have been developed to determine what similarities could be noted among the accidents. In this way, recommendations can be made from similar occurrences to help reduce the risks associated with welding operations.

Production-related welding accidents outnumber drilling-related welding accidents by slightly more than five to one. This should be expected because production platforms involve the presence of hydrocarbons and pose a greater risk of fires than do drilling platforms especially during welding operations. (See Summary of Accidents on pages 10 through 26). Seventy-two welding-related accidents occurred during production operations, fourteen during drilling operations, two during construction, and two during completion, recompletion, or workover operations (Table 1).

TABLE 1 - WELDING ACCIDENTS PER YEAR (See Figure 1)

YEAR	DRILLING	PRODUCTION	COMPLETION RECOMPLETION OR WORKOVER	CONSTRUCTION	TOTAL NUMBER
1967	1				1
1968					
1969					
1970		2			2
1971					
1972		5			5
1973		4			4
1974		8			8
1975		4			4
1976		6			6
1977	1	3	1		5
1978		8			8
1979	4	8			12
1980	3	8		1	12
1981	2	10	1	1	14
1982	2	3			5
1983	1	3			4
	14	72	2	2	90

The number of welding fires and injuries which occurred in each MMS District correlates with the number of accidents in each District. In most cases when a fire occurred, an injury also happened. Fatalities, on the other hand, correlate only to the severity of the individual accident rather than to the number of accidents.

Welding-related accident activity has had two peak periods since 1967, specifically 1972-1974 and 1978-1981. (See Summary of Accidents.)

Accidents for the years 1979, 1980, and 1981 accounted for 42 percent (38 of 90) of all accidents reported since 1967. There has also been a notable decrease in accidents since 1981. This decrease could possibly be due to the slowdown in oil and gas drilling and production activity experienced in 1982 and 1983.

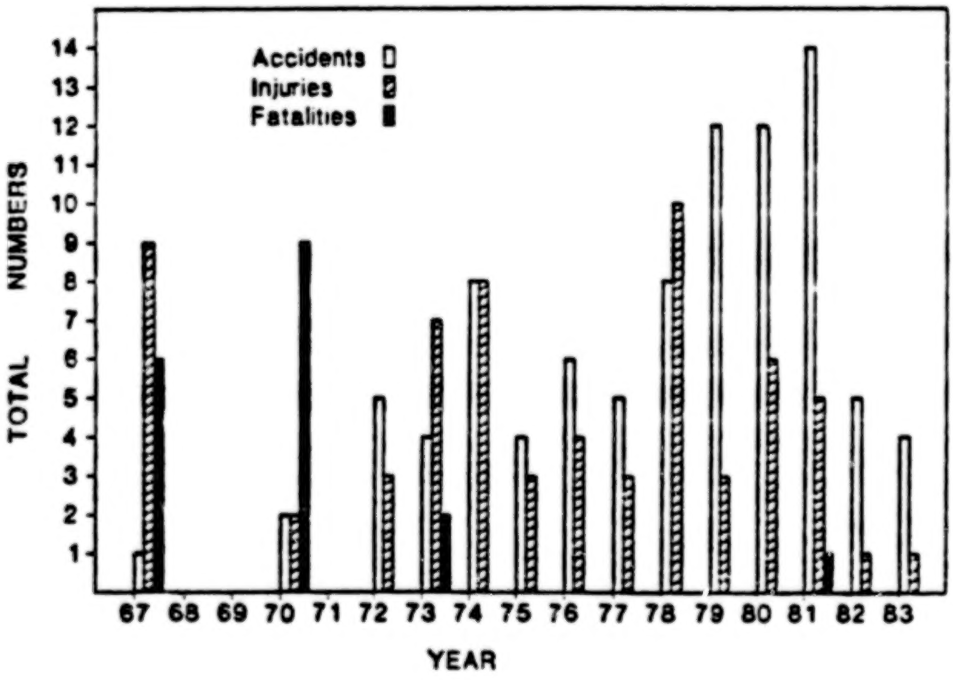

Figure 1 - Accidents, Fatalities, and Injuries Per Year

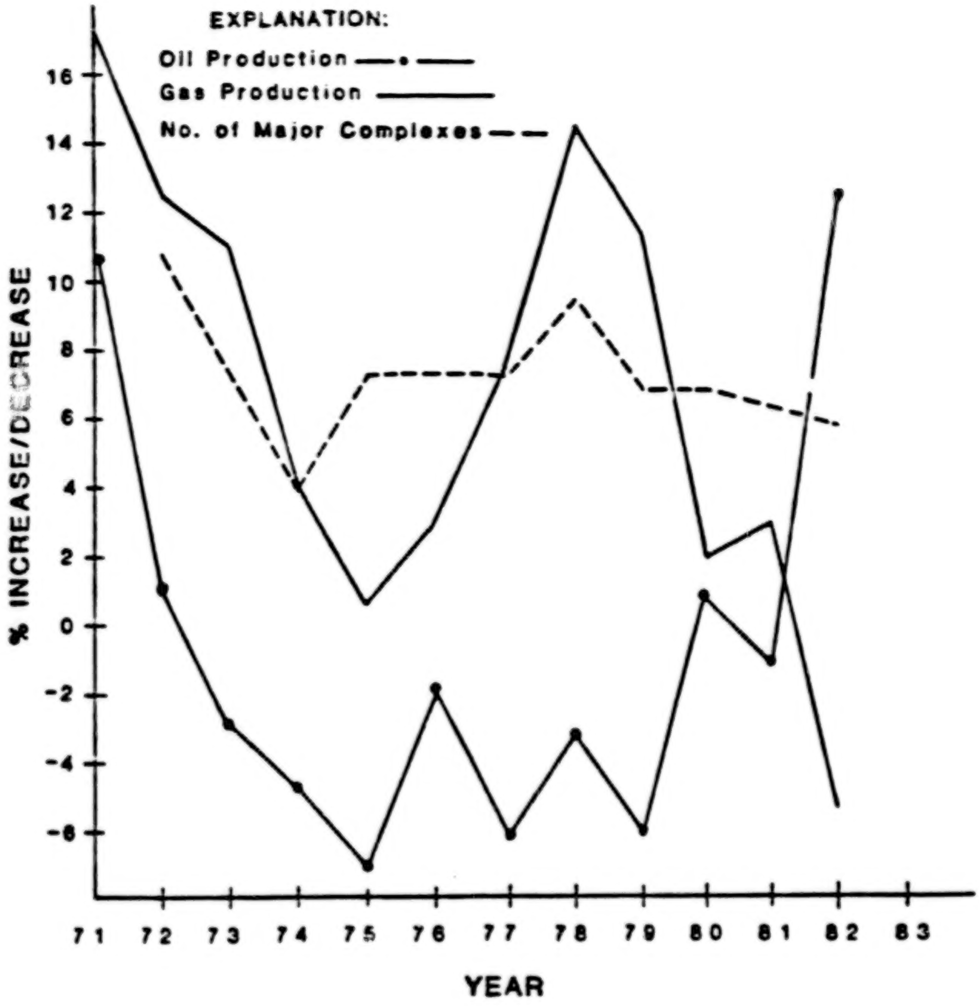

Figure 2 - Yearly Activity Increase/Decrease

Comparing Figure 1 to Figure 2 reveals that the number of accidents occurring each year does not seem to have any correlation with that of yearly gas and oil production nor with the number of new major complexes being constructed each year.

By comparing the three graphs in Figure 1, it can be concluded that the injuries occurring each year will correlate somewhat to the number of accidents taking place. On the other hand, the number of fatalities occurring each year shows no correlation to the number of accidents taking place within any particular year. Given these circumstances, future accidents could statistically generate 0.7 (65 out of 90) injuries per accident.

When the welding accident is broken down into a welding, cutting, or other type of operation, other observations can be made. The welding type of operation comprised 51 percent (46 out of 90) of all the accidents, but resulted in 65 percent (42 out of 65) of the injuries and over 88 percent (16 out of 18) of the fatalities (Table 2).

Table 2 - Type of Welding Operation Vs. Injuries and Fatalities

	NUMBER	INJURIES	FATALITIES
Welding	46	42	16
Cutting	38	20	1
Other	6	3	1
Total	90	65	18

The cutting type of operation resulted in 31 percent (20 out of 65) of the injuries and only six percent (1 out of 18) of the fatalities. When welding is taking place, as opposed to cutting, there is a greater risk to human life and a definite need for greater precaution and care to be exercised.

There were two main causes involved in 70 percent (63 out of 90) of the accidents, "Lack of proper site preparation, coordination, and supervision," and "Failure to properly isolate potential source of fuel and/or flush/inert the work area" (Table 3). "Lack of proper site preparation, coordination, and supervision," was the cause in 46 percent (30 out of 65) of the injuries and over 94 percent (17 out of 18) of the fatalities, but encompassed only 29 percent (26 out of 90) of the total accidents. "Failure to properly isolate potential source of fuel and/or flush/inert the work area" caused 34 percent (22 out of 65) of the injuries, no fatalities, and was involved in 41 percent (37 out of 90) of the total accidents. These two problem areas are addressed in Section 5.4.3a of OCS Order No. 5 and compliance with this requirement would have prevented these types of accidents from occurring.

Table 3 - Causes of Accidents

CAUSE	FIRE	EXPLOSION	POLLUTION SPILL	INJURY	FATALITIES	TOTAL NUMBER OF ACCIDENTS
Lack of proper site preparation, coordination and supervision	25	3	1	30	17	26
Failure to properly isolate potential source of fuel and/or flush/inert the work area	34	8		22		37
Defective equipment	1					1
Improper layout or design	1					1
Employee negligence	7	2		9		8
Equipment failure	2			1		2
Protective devices not used				2		2
Poor housekeeping	3					3
Improperly prepared work area	9			1		
	9					
Unknown		1			1	1
Totals	82	14	1	65	18	90

There were 82 fires involved in welding accidents, almost a one-to-one ratio (.91 = 82 out of 90). Considering the tremendous heat source generated when welding, this is a natural outcome anytime a human error or equipment malfunction takes place during the actual operation.

The 18 fatalities that resulted from welding accidents occurred in only four events which indicates that fatalities will correlate only to the severity of a particular accident and not to the number of events occurring, or the amount of oil and gas produced each year.

CONCLUSIONS

The following conclusions can be made:

1. There is an 80 percent probability that the next welding-related accident will take place on a production platform rather than on a drilling facility.

2. There is over a 72 percent (65 out of 90) chance that an injury, and a 91 percent (82 out of 90) chance that a fire will occur in the next welding accident.

3. In accidents where fatalities may result, there is a 75 percent chance that there will be more than one fatality.

4. The welding phase of the welding operation, as opposed to the cutting phase, poses a greater risk to human life.

5. No prediction can be made concerning the number of welding accidents that can be expected to occur in any one year.

6. Section 5.4 of OCS Order No. 5 satisfactorily addresses the problem areas found in the accidents reviewed and strict compliance with the Order would have prevented a majority of accidents from ever occurring.

RECOMMENDATIONS

After a thorough review of all the data which has been presented, the following recommendations are submitted for consideration:

1. That the Risk and Safety Analysis Unit provide copies of this report to the various Districts for their use as background information in investigating future welding-related accidents.

2. That a copy of this report be provided to OCS operators to help them avoid or reduce the risks associated with welding.

3. That a copy of the report be provided to the U.S. Coast Guard to help in their programs concerning fire fighting equipment. In addition, a detailed Safety Alert was issued in July 1984 which discussed the conclusions found in this analysis.

SUMMARY OF ACCIDENTS

DATE	MMS DISTRICT	TYPE OPERATION	OPERATOR	LOCATION	TYPE EVENT	CAUSE
02-03-67	Lake Charles	Drilling	Conoco	WC 194 F	Fire Injury (9) Fatality (6)	Lack of proper site preparation, coordination and supervision.
04-11-70	Houma	Production	Union	SS 253 A	Explosion Injury (2)	Lack of proper site preparation, coordination and supervision. Welding next to hatch of storage tank.
05-28-70	Lake Jackson	Production	C & K	GA 189 A	Explosion Fire Pollution Spill Fatality (9)	Lack of proper site preparation, coordination and supervision. Welding near storage tanks containing oil.
03-07-72	Metairie	Production	Chevron	WD 29 E	Fire	Failure to properly isolate source of fuel and/or flush/inert the work area. Welder's torch ignited gas leak.
06-26-72	Metairie	Production	Chevron	MP 300 B	Fire	Defective equipment. Slag entered panel starting fire due to sprung door on panel.
07-17-72	Lafayette	Production	Amoco	SM 50 A	Fire	Improper layout or design. Slag ignited vapor from vent line.

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DATE	MMS DISTRICT	TYPE OPERATION	OPERATOR	LOCATION	TYPE EVENT	CAUSE
09-18-72	Metairie	Production	Chevron	MP 42 D	Fire	Lack of proper site preparation, coordination and supervision. Leaking O-ring caused gas to be ignited by slag.
10-23-72	Lafayette	Production	Shell	EI 158 B	Explosion Fire Injury (3)	Failure to properly isolate source of fuel and/or flush/inert work area. Sparks ignited methanol drum.
01-16-73	Lake Charles	Production	Forest	VR 161 A	Fire	Failure to properly isolate source of fuel and/or flush/inert work area. Sparks ignited methanol drum.
07-12-73	Metairie	Production	Chevron	WD 29 A	Fire	Failure to properly isolate source of fuel and/or flush/inert work area. Exhaust gas ignited during welding.
11-30-73	Lafayette	Production	Exxon	EI 295 A	Fire Injury (2)	Failure to properly isolate source of fuel and/or flush/inert work area. Welder ignited gas leaking from hydraulic pump.

DATE	MMS DISTRICT	TYPE OPERATION	OPERATOR	LOCATION	TYPE EVENT	CAUSE
12-07-73	Metairie	Production	ARCO	SP 60 A	Fire Injury (5) Fatality (2)	Lack of proper site preparation, coordination and supervision. Welder ignited leaking oil from flange being loosened.
06-14-74	Metairie	Production	Chevron	MP 299 D	Fire Injury (1)	Failure to properly isolate source of fuel and/or flush/inert work area. Welding arc ignited gas from sump pile vent.
06-21-74	Houma	Production	Tenneco	SS 168 A	Fire	Employee negligence. Welding arc ignited gas being vented from skimmer.
07-04-74	Lafayette	Production	Cities Service	EI 257 D	Explosion	Failure to properly isolate source of fuel and/or flush/inert work area. Welder ignited gas leaking from supply gas tubing.
07-06-74	Houma	Production	Exxon	GI 23 T	Explosion	Failure to properly isolate source of fuel and/or flush/inert work area. Slag ignited drum vapors.

DATE	MMS DISTRICT	TYPE OF OPERATION	OPERATOR	LOCATION	TYPE EVENT	CAUSE
09-04-74	Houma	Production	ODECO	PL 19 OBM	Explosion Fire Injury (2)	Employee negligence. Welding in an unsafe area.
09-14-74	Houma	Production	ODECO	PL 20 21	Explosion Fire Injury (2)	Employee negligence. Arc from welding leads ignited gas near tank vent.
09-28-74	Lafayette	Production	Shell	EI 331 A	Explosion Fire Injury (2)	Failure to properly isolate source of fuel and/or flush/inert work area. Welder ignited gas escaping from line not blocked closed.
11-27-74	Houma	Production	Shell	SS 274 A	Fire Injury (1)	Equipment failure. Slag ignited oil spill.
06-09-75	Metairie	Production	Shell	SP 65 A	Fire	Lack of proper site preparation, coordination and supervision. Slag or sparks ignited lift gas.
09-10-75	Metairie	Production	Conoco	WD 44 D	Fire Injury (1)	Lack of proper site preparation, coordination and supervision. Slag ignited gas in polyflow safety system line.

DATE	MMS DISTRICT	TYPE OPERATION	OPERATOR	LOCATION	TYPE EVENT	CAUSE
09-24-75	Houma	Production	Union	SS 208 H	Fire	Lack of proper site preparation, coordination and supervision. Slag ignited distillate in gas scrubber pan.
10-08-75	Lafayette	Production	Union	SM 49 A	Fire Injury (2)	Lack of proper site preparation, coordination and supervision. Welders ignited escaping gas from storage tank.
02-28-76	Metairie	Production	Conoco	WD 70 H	Explosion Injury (1)	Failure to properly isolate source of fuel and/or flush/inert work area. Slag ignited vapors in empty drum.
04-09-76	Houma	Production	Kerr-McGee	SS 214 F	Fire	Failure to properly isolate source of fuel and/or flush/inert work area. Slag ignited leaking gas in shut down panel.
04-21-76	Lake Jackson	Production	Shell	HI 136 A	Injury (1)	Protective device not used. Welder failed to replace rope barrier and another welder fell from lower deck to boat landing.

DATE	MMS DISTRICT	TYPE OPERATION	OPERATOR	LOCATION	TYPE EVENT	CAUSE
04-22-76	Metairie	Production	Exxon	WD 99 A	Fire	Failure to properly isolate source of fuel and/or flush/inert work area. Slag ignited gas leaking from flare line.
06-28-76	Houma	Production	Kerr-McGee	SS 229 A	Fire Injury (1)	Employee negligence. Welder's electrode ignited stock tank vent line.
08-08-76	Houma	Production	Conoco	GI 41 D	Fire Injury (1)	Failure to properly isolate source of fuel and/or flush/inert work area. Welder ignited condensate in dump line while cutting same.
04-02-77	Metairie	Production	Marathon	MP 306 E	Fire Injury (1)	Employee negligence. Electrode ignited hydraulic fluid in overhead line while welder stretched.
04-26-77	Metairie	Drilling	Gulf	VK 900 A	Fire	Failure to properly isolate source of fuel and/or flush/inert work area. Slag ignited gas being flared underwater through piping.

DATE	MMS DISTRICT	TYPE OPERATION	OPERATOR	LOCATION	TYPE EVENT	CAUSE
05-02-77	Lafayette	Completion, Recompletion or Workover	Pennzoil	EI 330 B	Fire	Failure to properly isolate source of fuel and/or flush/inert work area. Cutting torch ignited oil in mud pit.
05-04-77	Houma	Production	ODECO	SS 114 H	Fire Injury (1)	Lack of proper site preparation, coordination and supervision. Welder ignited gas from SCSSV panel.
06-23-77	Houma	Production	Chevron	GI 37 R	Fire Injury (1)	Failure to properly isolate source of fuel and/or flush/inert work area. Welder ignited gas from sump vent.
02-11-78	Metairie	Production	Exxon	WD 73 D	Fire	Poor housekeeping. Slag or sparks ignited plastic containers in cargo basket.
03-10-78	Lafayette	Production	Pennzoil	SM 128 B	Explosion Fire	Failure to properly isolate source of fuel and/or flush/inert work area. Welding sparks ignited drum of paint solvent.

DATE	MMS DISTRICT	TYPE OPERATION	OPERATOR	LOCATION	TYPE EVENT	CAUSE
04-30-78	Houma	Production	Chevron	GI 37 Y	Injury (1)	Employee negligence. Welder slipped on unsecured grate.
07-20-78	Metairie	Production	Shell	WD 133 B	Explosion Fire Injury (1)	Failure to properly isolate source of fuel and/or/flush/inert work area. Welder ignited gas vapors leaking from emergency sump.
08-02-78	Metairie	Production	Marathon	MP 305 B	Fire Injury (3)	Lack of proper site preparation, coordination and supervision. Welder ignited gas from blowdown valve.
09-02-78	Houma	Production	Placid	SS 207 A	Fire Injury (3)	Lack of proper site preparation, coordination and supervision. Welder ignited vent gas from compressor gas starter.
10-22-78	Houma	Production	Kerr-McGee	SS 28 C	Fire Injury (2)	Failure to properly isolate source of fuel and/or/flush/ inert work area. Cutting torch ignited gas in steam generator.

DATE	MMS DISTRICT	TYPE OPERATION	OPERATOR	LOCATION	TYPE EVENT	CAUSE
12-16-78	Lake Charles	Production	Gulf	WC 198 A	Fire	Lack of proper site preparation, coordination and supervision. Welder started flash fire on cellar deck.
01-26-79	Metairie	Drilling	Exxon	WD 30 J	Fire	Failure to properly isolate source of fuel and/or flush/inert work area. Sparks ignited gas from instrument supply line leak.
02-10-79	Metairie	Drilling	Shell	MC 194 A	Fire	Poor housekeeping Slag ignited paint in drain.
04-25-79	Metairie	Production	Exxon	WD 30 J	Fire	Failure to properly isolate source of fuel and/or flush/inert work area. Cutting torch ignited gas leaking from a SCSSV control panel.
04-26-79	Houma	Production	Conoco	GI 40 G	Fire	Poor housekeeping Slag ignited a fire in a drain pan.
07-04-79	Lake Jackson	Production	McMoran	HI A-447 A	Fire	Lack of proper site preparation, coordination and supervision. Welding ignited diesel fuel which was spilled under pipe rack.

DATE	MMS DISTRICT	TYPE OPERATION	OPERATOR	LOCATION	TYPE EVENT	CAUSE
08-08-79	Metairie	Production	ARCO	SP 60 A	Fire Injury (1)	Failure to properly isolate source of fuel and/or flush/ inert work area. Sparks ignited a bucket of solvent.
10-12-79	Lake Charles	Production	Tenneco	VR 261 A	Fire	Equipment failure. Slag ignited skimmer overflow.
11-06-79	Houma	Production	Union	SS 208 E	Fire Injury (1)	Lack of proper site preparation, coordination and supervision. Hot slag ignited fluid in drip pan.
11-06-79	Houma	Production	Exxon	GI 22 L	Fire	Improperly prepared work area. Sparks ignited filters in storage room.
11-26-79	Metairie	Drilling	Exxon	WD 74 F	Fire Injury (1)	Employee negligence. Welder took a willful chance by refueling welding machine before turning it off.
11-27-79	Lafayette	Production	Pennzoil	EI 330 B	Fire	Failure to properly isolate source of fuel and/or flush/ inert work area. Slag ignited oil in skimmer on cellar deck.

DATE	MMS DISTRICT	TYPE OPERATION	OPERATOR	LOCATION	TYPE EVENT	CAUSE
12-12-79	Lafayette	Drilling	Gulf	EI 238 3	Fire	Improperly prepared work area. Welder ignited fire in roof of quarters building.
05-18-80	Metairie	Production	Shell	WD 99 A	Fire Injury (1)	Failure to properly isolate source of fuel and/or flush/inert work area. Welder started fire and fell while moving away.
06-13-80	Lafayette	Production	Texaco	EI 313 B	Fire Injury (2)	Lack of proper site preparation, coordination and supervision. Sparks ignited gas vapors from surge tank.
06-13-80	Houma	Production	Placid	SS 207 A	Fire	Lack of proper site preparation, coordination and supervision. Welding ignited paint and wooden floor.
07-11-80	Houma	Production	Chevron	SS 266 A	Fire Injury (1)	Failure to properly isolate source of fuel and/or flush/inert work area. Welder ignited glycol and gas fumes.

DATE	MMS DISTRICT	TYPE OPERATION	OPERATOR	LOCATION	TYPE EVENT	CAUSE
07-31-80	Lafayette	Drilling	Exxon	EI 251 A	Fire Injury (1)	Failure to properly isolate source of fuel and/or flush/inert work area. Welder ignited leaking lubricant and subsequently burned his leg.
08-25-80	Metairie	Drilling	Exxon	WD 73 C	Fire	Lack of proper site preparation, coordination and supervision. Fire occurred while rigging up during welding.
10-01-80	Metairie	Drilling	Exxon	WD 73 C	Fire	Improperly prepared work area. Heat from welding started fire in quarters building.
10-03-80	Metairie	Construction	ARCO	MC 148 A	Fire	Improperly prepared work area. Slag ignited tarpaulin which was not fire resistant.
10-25-80	Metairie	Production	Conoco	WD 71 E	Fire	Failure to properly isolate source of fuel and/or flush/inert work area. Slag or sparks ignited a small holding tank.

DATE	MMS DISTRICT	TYPE OPERATION	OPERATOR	LOCATION	TYPE EVENT	CAUSE
11-04-80	Houma	Production	Placid	SS 207 A	Fire	Failure to properly isolate source of fuel and/or flush/inert work area. Slag burned a hole in plastic tubing starting a fire.
11-23-80	Metairie	Production	Shell	WD 104 D	Injury (1)	Protective device not used. Foreign object blew into welder's eye.
12-09-80	Metairie	Production	Marathon	MP 306 D	Fire	Failure to properly isolate source of fuel and/or flush/inert work area. Sparks ignited leaking gas in vicinity of sump.
01-09-81	Houma	Production	Exxon	GI 23 T	Fire	Improperly prepared work area. Tarpaulin caught fire from hot slag.
01-10-81	Lake Jackson	Production	Amoco	HI A-536 C	Fire	Failure to properly isolate source of fuel and/or flush/inert work area. Slag blown by high winds ignited gas from leaking flange.
04-26-81	Metairie	Construction	ARCO	SP 60 C	Fire	Failure to properly isolate source of fuel and/or flush/inert work area. Welder ignited drain lines below work area.

DATE	MMS DISTRICT	TYPE OPERATION	OPERATOR	LOCATION	TYPE EVENT	CAUSE
04-27-81	Houma	Drilling	Conoco	GI 43 Q	Fire	Improperly prepared work area. Welding leads ignited roof attic insulation.
05-16-81	Metairie	Production	Exxon	WD 31 H	Explosion Fatality (1)	Unknown. Explosion of unknown origin occurred while diver was oxy-arc cutting.
05-20-81	Houma	Production	Conoco	GI 63 A	Explosion Fire	Lack of proper site preparation, coordination and supervision. Hot slag blew into stock tank causing an explosion.
07-18-81	Metairie	Production	Shell	SP 28 16 and 22	Fire Injury (1)	Employee negligence. Welder cut tubing, igniting gas and receiving burns.
08-12-81	Houma	Production	Kerr-McGee	SS 239 A	Fire	Lack of proper site preparation, coordination and supervison. Slag ignited gas condensate flowing from stock tank.
08-25-81	Lafayette	Production	Placid	SM 268 A	Fire	Improperly prepared work area. Welder ignited dryer lint while cutting an access opening.

DATE	MMS DISTRICT	TYPE OPERATION	OPERATOR	LOCATION	TYPE EVENT	CAUSE
08-27-81	Houma	Production	Placid	SS 207 A	Fire Injury (1)	Improperly prepared work area. Welder cut off valve which struck diesel line igniting fuel and burning welder.
10-07-81	Lake Charles	Production	Tenneco	VR 250 C	Fire Injury (2)	Failure to properly isolate source of fuel and/or flush/inert work area. Cut pipe fell causing fire, burning two employees.
10-15-81	Lake Charles	Drilling	Shell	VR 76	Fire Injury (1)	Failure to properly isolate source of fuel and/or flush/inert work area. Welder started fire inside ballast tank burning a floorhand.
10-15-81	Lafayette	Completion	Texaco	SM 116 A	Fire	Lack of proper site preparation, coordination and supervision. Oil on platform deck was ignited by welding operations.
11-28-81	Metairie	Production	Exxon	WD 74 B	Fire	Lack of proper site preparation, coordination and supervision. Welder ignited gas vapors while cutting hole.

DATE	MMS DISTRICT	TYPE OPERATION	OPERATOR	LOCATION	TYPE EVENT	CAUSE
07-22-82	Metairie	Production	Mobil	MP 92 B	Explosion Fire	Failure to properly isolate source of fuel and/or flush/inert work area. Slag or sparks ignited trapped vapors.
08-14-82	Lake Charles	Drilling	Shell	EC 240 A	Fire	Failure to properly isolate source of fuel and/or flush/inert work area. Slag ignited shale shaker mud.
09-09-82	Lake Charles	Drilling	Getty	WC 143 1	Fire	Lack of proper site preparation, coordination and supervision. Welder ignited rust preventive coating inside tank.
09-17-82	Houma	Production	Kerr-McGee	SS 214 D	Fire	Failure to properly isolate source of fuel and/or flush/inert work area. Welder ignited trapped distillate in a meter.
09-19-82	Metairie	Production	Conoco	WD 70 I	Fire	Lack of proper site preparation, coordination and supervision. Sparks ignited leaking supply line gas.

DATE	MMS DISTRICT	TYPE OPERATION	OPERATOR	LOCATION	TYPE EVENT	CAUSE
01-09-83	Houma	Drilling	Mobil	SS 182 5	Fire Injury (1)	Lack of proper site preparation, coordination and supervision. Cutting torch ignited fire around bell nipple.
04-08-83	Lake Charles	Production	Tenneco	VR 241 A	Fire	Improperly prepared work area. Welder ignited bumper tires on boat landing.
05-11-83	Houma	Production	Conoco	GI 47 AQ	Fire	Improperly prepared work area. Slag ignited 4-inch PVC drain line.
06-08-83	Lake Charles	Production	Tenneco	SA 11 B	Fire	Poor housekeeping. Slag ignited corrosion treatment chemical in skid pan.

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APPENDIX

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WELDING RELATED ACCIDENTS

DATE	OPERATOR/ DRILLING CONTRACTOR	AREA BLOCK PLATFORM	DESCRIPTION
02-03-67	Conoco/Crown Drilling	WC 194 F	Fire ignited during welding operations causing nine injuries and six fatalities (No other information available).
04-11-70	Union	SS 253 A	Two welders were using a cutting torch to cut the base of a vertical ladder off of a storage tank top near the thief hatch when the storage tank exploded. The work was being done in preparation for moving a drilling rig from the platform. One welder experienced bruises, sore muscles, and the other a fractured right thigh.
05-28-70	C & K	GA 189 A	A welder was attempting to weld an equalizing line between two storage tanks when the tanks exploded and caught fire; three additional tanks then caught fire. Welder was told tanks were dry but they contained approximately 1500-2000 barrels of oil. Nine fatalities resulted and 100 barrels of oil pollution.
03-07-72	Chevron	WD 29 E	While changing the cable on the gas operated air hoist boom, a welder using a torch ignited a small gas leak. The fire was extinguished and the gas supply shut off.
06-26-72	Chevron	MP 300 B	Welder was cutting on the underside of the structure supporting the production vessels when slag fell into the master shut-in panel on the deck below. The panel door was sprung so that it did not seal. The slag ignited the pilot bleed gas. The fire was extinguished with no damage or injuries.
07-17-72	Amoco	SM 50 A	Hot slag from a welder's torch ignited the vapors in the vent line of the glycol and water skimmer units. The fire was extinguished with no damages or injuries.

WELDING RELATED ACCIDENTS

DATE	OPERATOR/ DRILLING CONTRACTOR	AREA BLOCK PLATFORM	DESCRIPTION
09-18-72	Chevron	MP 42 D	Welding was in progress on an upper deck when slag from a welding rod fell to the wellhead of D-1 and ignited a small fire from a leaking O-ring in actuator diaphram of the surface safety valve. The stand-by fire watch extinguished the fire. No injuries and no damage to wellhead.
10-23-72	Shell	EI 158 B	Two welders were making a weld on a waterline that was directly above a drum containing methanol. The sparks, falling past a small hole on the side of the drum, apparently ignited the methanol vapors causing the drum to explode. The fire was extinguished and the three injured men flown to the hospital. No damage to platform.
01-16-73	Forest	VR 161 A	Welding sparks or slag ignited a partially filled drum of methanol. The fire was extinguished with no damage, injuries or pollution.
07-12-73	Chevron	WD 29 A	A flash fire occurred when exhaust gas from a gas hoist was discharged near the platform deck where welding operations were underway. There were no injuries, damage, or pollution from the fire.
11-30-73	Exxon	EI 295 A	A flash fire occurred within an enclosed surface controlled subsurface safety valve (SCSSV) hydraulic pump unit. The source of combustibles was thought to be leaking bonnets on two regulators supplying power gas for the gas operated hydraulic pumps. The source of ignition was thought to be welding operations which were being conducted to install drip pans in the deck area adjacent to the pump unit. Two men received burns from the flash fire.

WELDING RELATED ACCIDENTS

DATE	OPERATOR/ DRILLING CONTRACTOR	AREA BLOCK PLATFORM	DESCRIPTION
12-07-73	ARCO	SP 60 A	Welder ignited oil leaking from a flange being loosened near the scrubber skid. Fire caused five injuries and two fatalities.
06-14-74	Chevron	MP 299 D	A welder was fabricating anode holders 18 feet from a sump pile. The welding arc ignited gas from the sump pile vent causing a second welder to receive burns.
06-21-74	Tenneco	SS 168 A	A welder was repairing the boat landing and had spilled diesel fuel overboard when refueling his welding machine. He was welding next to the skimmer vent which was out of the water and contained gas. The gas ignited and then the diesel fuel in the water ignited. The fire was extinguished immediately with no resulting injuries.
07-04-74	Cities Service	EI 257 D	Platform was shut in during welding operations. A small leak in the supply panel was ignited by a welder, causing an explosion inside the panel case. There were no injuries, fire or damage.
07-06-74	Exxon	GI 23 T	A welder was using an empty chemical drum as a stand for cutting. Slag entered the drum through a 3/4-inch open vent. The drum had contained a surfactant. The drum exploded as a result of igniting the vapors from a low flash point liquid with hot slag. There were no injuries, fire or damage.
09-04-74	ODECO	PL 19 OBM	Welder was working in the machinery column when an explosion and fire occurred. Two men were injured.

DATE	OPERATOR/ DRILLING CONTRACTOR	AREA BLOCK PLATFORM	DESCRIPTION
9-14-74	ODECO	PL 20 21	While transferring hot welding leads, an arc was accidentally struck near the gas vent of a tank causing an explosion. One man was blown over the side onto the boat dock. He suffered arm and back injuries. Another man received burns.
09-28-74	Shell	EI 331 A	The line between the low-pressure and the high-pressure systems had not been blocked closed. When the low-pressure system, which was shut in, was being put back into service escaping gas was ignited by welder. The welder was welding a brace for platform piping when someone opened a gas valve allowing gas to escape from the low-pressure line. This resulted in an explosion and fire. Two men were burned.
11-27-74	Shell	SS 274 A	Four barrels of condensate were accidentally discharged into the Gulf while lowering the fluid level in the gun barrel. The automatic low level shut-down valve on the gun barrel failed to operate causing the discharge. Slag from a welding operation ignited the oil on the water. One man was burned before the fire was extinguished.
06-09-75	Shell	SP 65 A	Fire occurred while a water source well was being unloaded with lift gas through an overboard line. Lift gas was ignited from slag or sparks dropping from an area where a pipe clamp was being fabricated. Fire was put out with a portable fire extinguisher. There were no injuries.
09-10-75	Conoco	WD 44 D	Two men were cutting a hole in the platform deck during welding operations. A piece of hot slag burned a hole in the polyflow safety system line causing a momentary flash fire. One man received burns on the lips and neck.

WELDING RELATED ACCIDENTS

DATE	OPERATOR/ DRILLING CONTRACTOR	AREA BLOCK PLATFORM	DESCRIPTION
09-24-75	Union	SS 208 H	A small accumulation of distillate in the gas scrubber pan was ignited by cutting torch slag. Dry chemical extinguishers were used to control the fire. There were no injuries and only minimal damage to equipment.
10-08-75	Union	SM 49 A	Personnel were welding on a flare line from the test separator on one platform to the flare boom on another platform. Gas from a separator on the second platform to a temporary storage tank on the first platform blew the tank's thief hatch open. The escaping gas was ignited by the welders. Two men received burns from the resulting flash fire.
02-28-76	Conoco	WD 70 H	Worker was standing on an empty 55 gallon drum while welding when slag apparently ignited vapors inside the drum. The resulting explosion ruptured the end of the drum on which the welder was standing, blowing him off. He suffered broken bones in one of his feet.
04-09-76	Kerr-McGee	SS 214 F	Welder was cutting a hole in the top deck of platform when a piece of slag fell to a lower deck. Escaping gas from an undetected leak in the rear of the shut-down panel was ignited by slag, causing a flash fire. Fire was confined to plastic tubing in the shut-down panel. There were no injuries and only minimal damage to equipment.
04-21-76	Shell	HI 136 A	An employee was seriously injured when he fell 50 feet from the lower deck of the platform to boat landing. Previously, a welder had removed a rope barrier and failed to replace it before leaving area.

WELDING RELATED ACCIDENTS

DATE	OPERATOR/ DRILLING CONTRACTOR	AREA BLOCK PLATFORM	DESCRIPTION
04-22-76	Exxon	WD 99 A	A flash fire occurred when a pressure relief valve on a gas well flow line started leaking gas into the flare line which terminated below the water level on the south side of the platform. A welder was welding handrails on the top deck on the south side, and sparks hitting the water in the vicinity of the flare ignited the gas. The fire was extinguished in approximately 30 seconds by shutting in all the wells. There were no injuries, property damage, or pollution resulting from the fire.
06-28-76	Kerr-McGee	SS 229 A	Welder's electrode accidentally touched platform in the vicinity of a stock tank vent line. Large flash occurred, then fire settled to vent line opening. The welder's helper received third-degree burns.
08-08-76	Conoco	GI 41 D	The liquid dump line between the LTX Unit and the high-pressure separator was being modified. Condensate had collected in the lower portion of the line between the two vessels. When the welder cut through this low portion of the line, burning condensate drained onto him causing burns on his chest and stomach.
04-02-77	Marathon	MP 306 E	Welder's electrode came into contact with an overhead high pressure hydraulic control line when he stretched after being in a squatting position. Hole was burned in line and the ignited fluid sprayed on welder causing burns on face, arms, and back.

WELDING RELATED ACCIDENTS

DATE	OPERATOR/ DRILLING CONTRACTOR	AREA BLOCK PLATFORM	DESCRIPTION
04-26-77	Gulf/ Diamond M Drilling Co	VK 900 A	Turbine compressor was shut down and natural gas was being flared underwater through piping extended down leg of platform. Concurrently, a welder was cutting plate for mud tank repair of drilling rig, located on top deck of platform. Slag fell through open grating and ignited flare. ESD switch immediately activated, fire was extinguished and there were no injuries or damages.
05-02-77	Pennzoil	EI 330 B	Modifications were being made to flow line from bell nipple to shale shaker. Sparks from cutting torch ignited oil in pits. The fire was extinguished immediately with no injuries and only minor property damage.
05-04-77	ODECO	SS 114 H	Contract employee opened door to surface controlled subsurface safety valve (SCSSV) panel while a welder was cutting nearby. Exhaust from gas operated pump was ignited. Employee received burns on both arms.
06-23-77	Chevron	GI 37 R	Welder was replacing handrail posts next to to a sump pile vent. Fire watch was spraying water on sump pile when flash fire occurred. Fire watch received burns before the fire was extinguished.
02-11-78	Exxon	WD 73 D	Sparks or slag from welding operation apparently ignited a cargo basket containing plastic pails of chlorine tablets used for treating water and sewage. Fire quickly spread to two adjacent cargo baskets containing auxiliary fire-fighting equipment. Fire extinguished within 10 minutes using portable fire extinguishers and the platform fire-water system. No personnel injury or pollution resulted from the fire, and property damage was limited to the contents of the cargo baskets.

WELDING RELATED ACCIDENTS

DATE	OPERATOR/ DRILLING CONTRACTOR	AREA BLOCK PLATFORM	DESCRIPTION
03-10-78	Pennzoil	SM 128 B	Welder was cutting hole in the top deck and a spark ignited a 55 gallon drum of paint solvent on the production deck. Drum exploded and caught fire which was quickly extinguished. There were no injuries, and property damage was minor.
04-30-78	Chevron	GI 37 Y	A welder fell about 40 feet from cellar deck into water when a loose grating slipped off the support beam. Welder fractured pelvis in fall.
07-20-78	Shell	WD 133 B	Gas vapors from emergency sump leaked through sand drain line and then through waste cleaning unit that was being installed. When welder struck an arc on a connecting line a flash fire occurred. Fire traveled through piping into the cleaning unit causing an explosion. Welder received burns on hand/wrist. There was no damage to the platform structure and no pollution.
08-02-78	Marathon	MP 305 B	Welding crew was in the process of making repairs to boat bumper (where it attaches to to platform leg) at the +10 foot level, when the compressor shut down. The automatic blowdown valve opened and gas vented near the water line where welding was in progress resulting in a flash fire. The manual valve on blowdown line was blocked in and fire burned out within five minutes. Three men were burned in the flash fire.
09-02-78	Placid	SS 207 A	Gas vented from compressor gas starter was ignited by a welder, working near the starter vent, when a mechanic started the compressor. Three men were burned in the fire.

DATE	OPERATOR/ DRILLING CONTRACTOR	AREA BLOCK PLATFORM	DESCRIPTION
10-22-78	Kerr-McGee	SS 28 C	An accumulation of natural gas inside a steam generator was ignited as welder was cutting a retaining bolt with an oxygen/ acetylene torch. Two men were injured in the fire.
12-16-78	Gulf	WC 198 A	A welder was working on the cellar deck when sounds of gas and fluid flowing into the sump tank were heard. When an arc was struck by the welder, a flash fire occurred. Cause of fire was thought to be the fluid coming from the skimmer tank since the dump valve was found to be left open. Fire was extinguished and no one was injured.
01-26-79	Exxon/Services Equipment and Engineering, Inc.	WD 30 J	Flash fire occurred when sparks from welder's torch ignited a leak in an instrument supply line on a control panel. The fire was extinguished within one minute by a posted fire watch. No pollution, injuries, or damages to equipment occurred.
02-10-79	Shell/Shell Offshore, Inc.	MC 194 A	A drilling rig was in the rigging up phase. The fire occurred when a welder was performing cutting operations. Hot slag went under the mud storage room door and ignited some paint thinner which had been poured in the drain line. The fire was extinguished with only minor equipment damage and no personnel injuries.
04-25-79	Exxon	WD 30 J	Sparks from a drilling rig welder's cutting torch ignited gas leaking from a SCSSV control panel. Rigging-down operations were in progress at the time. The fire was immediately extinguished and no pollution, injuries, or damages to equipment occurred.
04-26-79	Conoco	GI 40 G	A welder had cut an old angle iron header stand loose for removal. The fire watch noticed a flame in a nearby drain and quickly extinguished it with a dry chemical fire

DATE	OPERATOR/ DRILLING CONTRACTOR	AREA BLOCK PLATFORM	DESCRIPTION
			extinguisher. It was then noticed that the fire had traveled up a drain line to a trough drain under the main deck. This fire was also extinguished with dry chemical fire extinguisher. It is believed that a small amount of helicopter turbine fuel trickled down the drain system just prior to the cutting operation. There was no resulting damage to the platform, equipment, or personnel injury.
07-04-79	McMoRan	HI A-447 A	The rig was in the construction phase and diesel was being off-loaded from a supply boat. Diesel tank overflowed, spilled under pipe rack, where welding was in progress, and ignited. Fire was extinguished in 30 minutes. No one was injured.
08-08-79	ARCO	SP 60 A	Sparks from cutting torch ignited bucket of solvent. Foreman was burned by splashing liquid while putting out fire with a dry chemical fire extinguisher.
10-12-79	Tenneco	VR 261 A	The skimmer overflowed into the Gulf and was ignited by slag from welding operation. Fire was extinguished with no injuries.
11-06-79	Union	SS 208 E	Employee removed a bull plug from a separator and was draining the vessel of its hydrocarbons and water into the drip pan. When a welder started to weld on the top deck, some slag fell into the drip pan and ignited the hydrocarbons in the pan, causing burns to the arms and hands of the employee.
11-06-79	Exxon	GI 22 L	A small fire occurred in storage room when hot slag from a cutting torch fell onto some air conditioning filters. Although a fire watch had been posted on both levels, the fire watch on the lower level had found the storage room locked

WELDING RELATED ACCIDENTS

DATE	OPERATOR/ DRILLING CONTRACTOR	AREA BLOCK PLATFORM	DESCRIPTION
			and had gone to get the key; when he returned, the area was full of smoke. A small hole was cut in the storage room wall for access, and the fire was extinguished using dry chemical and water.
11-26-79	Exxon/Services Equipment and Engineering, Inc.	WD 74 F	A welder was refueling a welding machine which was not turned off. A small amount of diesel fuel sprayed on welding machine and generator. A flash fire occurred. The welder received burns to his hands.
11-27-79	Pennzoil	EI 330 B	Welder was cutting pipe on production deck and a piece of hot slag fell into an open top skimmer on cellar deck igniting oil in the skimmer. The fire was extinguished with no injuries.
12-12-79	Gulf/ODECO	EI 238 3	A welder was cutting an air vent in roof of quarters building starting a small fire in roof. No one was injured.
05-18-80	Shell	WD 99 A	A welder was operating a cutting torch which ignited gas vapors from a one-inch open-ended line. The welder made a sudden movement away from the fire and tripped and fell, resulting in his right knee sustaining abrasions and swelling. The fire was extinguished using a dry powder fire extinguisher.
06-13-80	Texaco	EI 313 B	While in process of connecting a vapor recovery compressor, the inlet line to oil surge tank was disconnected so that a weld could be made on line. Gas vapors came out of disconnected inlet line and accumulated under top deck of platform. Spark from welding ignited gas and fire spread back to surge tank. Two men were burned in the fire.
06-13-80	Placid	SS 207 A	A raised wooden deck was ignited by welder patching holes in generator room floor. No one was injured.

WELDING RELATED ACCIDENTS

DATE	OPERATOR/ DRILLING CONTRACTOR	AREA BLOCK PLATFORM	DESCRIPTION
07-11-80	Chevron	SS 266 A	Welder was cutting the glycol return line from the contactor with an acetylene torch when glycol and gas fumes ignited. Welder was injured in the fire.
07-31-80	Exxon/Diamond M Drilling Co.	EI 251 A	Welder burned his leg when he attempted to stamp out puddle of burning mud lubricant which leaked from drum.
08-25-80	Exxon/Zapata Drilling	WD 73 C	The drilling crew was rigging up on the platform, and a fire occurred when welding slag fell on top of the platform's sump tank lid, which contained a small amount of combustible fluids. The fire was put out by the fire watch using a chemical extinguisher. No injuries, equipment damage, or pollution occurred.
10-01-80	Exxon/Zapata Drilling	WD 73 C	The crew was drilling on the platform when a fire occurred while the welder was in process of increasing the protective chain link fence surrounding the quarter's package helicopter deck. During welding operation, the attic of quarter's package caught fire. Fire was put out with chemical extinguishers and water. There were no injuries or pollution.
10-03-80	ARCO	MC 148 A	Platform was in final process of construction - no drilling or production. Slag from welder's torch ignited tarpaulin. Fire was extinguished within several minutes. Investigation revealed that tarpaulin was not of fire resistant type. There were incidental damages to the structure and no personnel injuries from the fire.

WELDING RELATED ACCIDENTS

DATE	OPERATOR/ DRILLING CONTRACTOR	AREA BLOCK PLATFORM	DESCRIPTION
10-25-80	Conoco	WD 71 E	While cutting a piece of channel iron on the main deck, a piece of slag or spark from construction work in progress fell into small holding tank, causing fire. Fire watches on main and cellar decks did not see small piece of slag or spark that caused fire. Fire was extinguished in approximately ten minutes with dry chemical fire extinguishers and wheel unit with light water solution. No one was injured.
11-04-80	Placid	SS 207 A	Hot slag from welder's torch burned hole in section of 3/8-inch plastic tubing, fire was extinguished immediately. There were no injuries.
11-23-80	Shell	WD 104 D	Welder was using cutting torch when foreign object blew into his right eye.
12-09-80	Marathon	MP 306 D	Platform was shut in while welders were installing pipe supports under production deck when flash fire occurred in vicinity of sump pile at the boat landing. Fire lasted for 10 minutes. Gas was leaking from 4-inch hole just below water line in sump, and allowed fluid being drained from precipitator to escape to atmosphere. Sparks from welding operation overhead ignited gas. There were no injuries and no equipment damage was sustained. No pollution resulted from the incident.
01-09-81	Exxon	GI 23 T	A fire occurred when hot slag fell while welding above the sump tank that had been covered by a tarpaulin. When welders retired for the evening the smoldering tarpaulin caught fire. The fire was then fed by supply gas from the sump pump controller until personnel arrived the following morning. No one was injured and the fire was extinguished.

WELDING RELATED ACCIDENTS

DATE	OPERATOR/ DRILLING CONTRACTOR	AREA BLOCK PLATFORM	DESCRIPTION
01-10-81	Amoco	HI A-536 C	While cutting slag on the top deck, high winds blew onto water cleaning unit on bottom deck. Leaking gas around a hatch cover was ignited but was extinguished immediately by fire watch. No personnel were injured.
04-26-81	ARCO	SP 60 C	A flash fire occurred while platform was shut in for construction. Fire occurred on 3-inch drain line to sump. Fire watch was on site, but lines were directly under floor 3 to 4 inches from where welding was being performed. Fire extinguished with 30-pound hand unit. No one was injured.
04-27-81	Conoco/ Reading and Bates Offshore Drilling Co.	GI 43 Q	Fire occurred in attic of the living quarters. Steel roof of building also served as work and storage area for rig operations. Intermittent welding had been in progress as preparations were being made to offload rig. Welding leads, which had been laid on roof, shorted out on steel deck burning 6-inch hole in roof, therefore, causing attic insulation below to catch fire. Fire was immediately extinguished with 30-pound dry chemical extinguisher. There were no injuries to personnel nor damage to the platform.
05-16-81	Exxon	WD 31 H	A diver was oxy-arc-cutting well conductor on a well in approximately 45 feet of water when an explosion of unknown origin occurred. Back-up diver was sent down and found first diver, unconscious and tangled in his hose, with diver hat and harness off. Diver was taken to hospital but the injury was fatal.

WELDING RELATED ACCIDENTS

DATE	OPERATOR/ DRILLING CONTRACTOR	AREA BLOCK PLATFORM	DESCRIPTION
05-20-81	Conoco	GI 63 A	An explosion occurred when hot slag from a cutting torch blew into an opening on stock tank located on lower deck. Roustabouts had earlier removed a 2-inch line to stock tank, leaving it open to atmosphere. The fire was immediately extinguished with no injuries.
07-18-81	Shell	SP 28 16 and 22	A welder inadvertently cut 3/8-inch tubing connecting gas lift orifice fitting to recording meter. Welder received second degree burns about face and both forearms.
08-12-81	Kerr-McGee	SS 239 A	Platform was shut in while welders were cutting on 6-inch flowline. Block valve on by-pass line on the heater treater oil outlet line was left open, allowing condensate and gas to flow to stock tank. Gas was vented from stock tank causing back pressure on the sump tank. One-half barrel of condensate was discharged overboard and ignited by slag from the welding operations. Standby boat received minor damage. No one was injured.
08-25-81	Placid	SM 268 A	Lint from clothes dryer in living quarters was ignited when welder was making an access opening between deck and quarters building to open a clogged sewerage drain. Fire was quickly extinguished with portable fire fighting equipment. There was no property damage and no injury to personnel.

WELDING RELATED ACCIDENTS

DATE	OPERATOR/ DRILLING CONTRACTOR	AREA BLOCK PLATFORM	DESCRIPTION
08-27-81	Placid	SS 207 A	The welding crew was cutting and removing out-of-service flow lines on the production platform. While cutting out a 4-inch valve, it rolled to the side while being lowered striking a 3/4-inch diesel line. The 3/4-inch line broke off at the tee and started spraying diesel that was ignited by the welder's cutting torch. The welder's clothes caught fire and he received burns to the face and hand.
10-07-81	Tenneco	VR 250 C	Two welders were cutting out 10-inch pipe in catwalk, when pipe was all the way cut it dropped, trapped condensate, and ignited, causing flash fire. Both men were burned about the face and arms.
10-15-81	Shell/Keyes Offshore, Inc.	VR 76	Floorhand was helping welder cut inside ballast tank when welder noticed a fire. Welder was able to get out first. Floorhand was burned on waist, arms, and face while exiting tank.
10-15-81	Texaco	SM 116 A	Attempts were being made to kill a well prior to beginning workover operations. Kill fluid (containing oil and seawater) from the well had been drained on platform deck to empty the pit so that it could be used to mix a heavier kill fluid of calcium-chloride water. A centrifugal pump suction line had to be modified in order to change kill fluid. In the process, hot weld ignited the oil on deck causing fire that damaged the generator, microwave building and compressor control panel before being extinguished by portable fire-fighting equipment. The fire was extinguished with no injuries.

WELDING RELATED ACCIDENTS

DATE	OPERATOR/ DRILLING CONTRACTOR	AREA BLOCK PLATFORM	DESCRIPTION
11-28-81	Exxon	WD 74 B	Hole was being cut in top deck in order to replace water pipe in fire fighting system. Cutting torch ignited gas vapors which originated from 95-barrel tank vent on lower deck, and accumulated between structural beams because of dense fog and no winds. Fire was extinguished in two minutes using water spray and dry powder extinguisher. No one was injured.
07-22-82	Mobil	MP 92 B	Methanol tank on facility exploded, tank top ruptured, caught fire and damaged above deck's grating. No injuries or pollution. Spark or slag ignited vapors trapped under tarp on top of tank. Fire was put out by firewatch on top deck and second deck by tank.
08-14-82	Shell/Chiles Drilling Co.	EC 240 A	Fire occurred in shale shaker unit which was processing oil based mud. Mud was ignited by hot metal cuttings from welder's torch. There were no injuries or pollution. Minimal damage to structure.
09-09-82	Getty/Keyes Offshore, Inc.	WC 143 1	Fire started as welder was cutting off an anchor winch hold down plate above preload tank. Rust preventative coating inside tank ignited; there was minor paint damage, and electrical wire damage to living quarters building. No injuries and fire was extinguished within five minutes.
09-17-82	Kerr-McGee	SS 214 D	Welder was cutting out flange bolts in an abandoned meter run that had distillate trapped in it. The distillate ignited and spilled onto welder, burning the left side of his face and lower left leg.

WELDING RELATED ACCIDENTS

DATE	OPERATOR/ DRILLING CONTRACTOR	AREA BLOCK PLATFORM	DESCRIPTION
09-19-82	Conoco	WD 70 I	Small flash fire occurred while welding operations were being conducted on structure. Sparks ignited leaking gas from supply line to 6-inch incoming pipeline from another platform. Fire was at the 10 foot level and was quickly extinguished. No injuries or damaged equipment. Cause was a leaking O-ring on valve, O-ring was replaced.
01-09-83	Mobil/Chiles Drilling Co.	SS 182 5	While preparing a ioint of casing to be run the protector could not be removed. The rig welder lit the cutting torch to cut the protector, igniting migrating gas from the bell nipple. A flash fire occurred and a casing crew helper received first-degree burns to his face and left forearm. The annular preventer was closed on the casing and a water hose was used to extinguish the fire. The area around the rotary and the rig floor were also wet down as a precautionary measure.
04-08-83	Tenneco	VR 241 A	A welder was repairing damaged grating on boat landing when the bumper tires on south corner of the boat landing caught fire. Fire was extinguished with water from workboat in field area. There were no injuries involved, nor was there any damage to the production equipment or platform.
05-11-83	Conoco	GI 47 AQ	While welders were cutting a steel plate, slag fell into an open galvanized 90 degree pipe fitting that was connected to a new 4-inch PVC drain line. The PVC ignited but, fire was immediately extinguished by the fire watch. No one was injured.

WELDING RELATED ACCIDENTS

DATE	OPERATOR DRILLING CONTRACTOR	AREA BLOCK PLATFORM	DESCRIPTION
06-08-83	Tenneco	SA 11 B	While dismantling a temporary crane, boom fell and dented a drum of corrosion treatment chemical which dripped into skid pan. Hot slag from cutting torch ignited chemical. Fire was extinguished in three minutes. There were no personnel injuries.

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